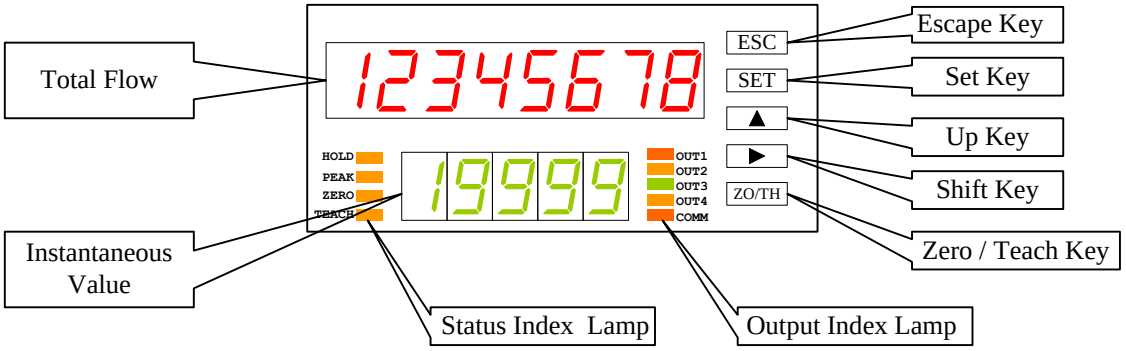
VM2-Series Flow Meter User's Manual

I. Functions & Features:

	Analog Input Type	Pulse Input Type
Input Signal	DC Voltage(1~5V) / DC Current (4~20mA)	NPN Pulse (0.05Hz~5KHz)
Sampling Period	28 ~ 56 times/sec.	50~999ms
Accuracy	0.1% FS	0.03% FS
Display Range	0 ~ 99999(Instant) / 0~99999999 (Sum)	
Character Height	0.36" (red) / 0.3" (green)	
Scaling Setting	Direct setting or Teaching. Decimal place can be planned at will.	
External Function	Resets / pause the total flow, processes radicals of input value	
Output Mode	3 output modes (Manual, Return, and Continue) for option.	
Optional Function	Relay contact output: 1~2 levels(a, b) Analog output: 4~20mA, 1~5V, 0~10V Communication: RS-232, RS-422, RS485	

II. Panel Explanation:



❖ Function Explanation:

- ❑ **Total Flow Display Window:** Displays present accumulated value and set value at setting mode.
- ❑ **Instantaneous Value Display Window:** Displays the instant flow rate of input value.
- ❑ **Explanation of Index Lamps:**

  HOLD: When External Input Control pauses the accumulation, the index lamp starts to blink.

  ZERO : When Forced Zeroing is enabled, the index lamp will be turned on.

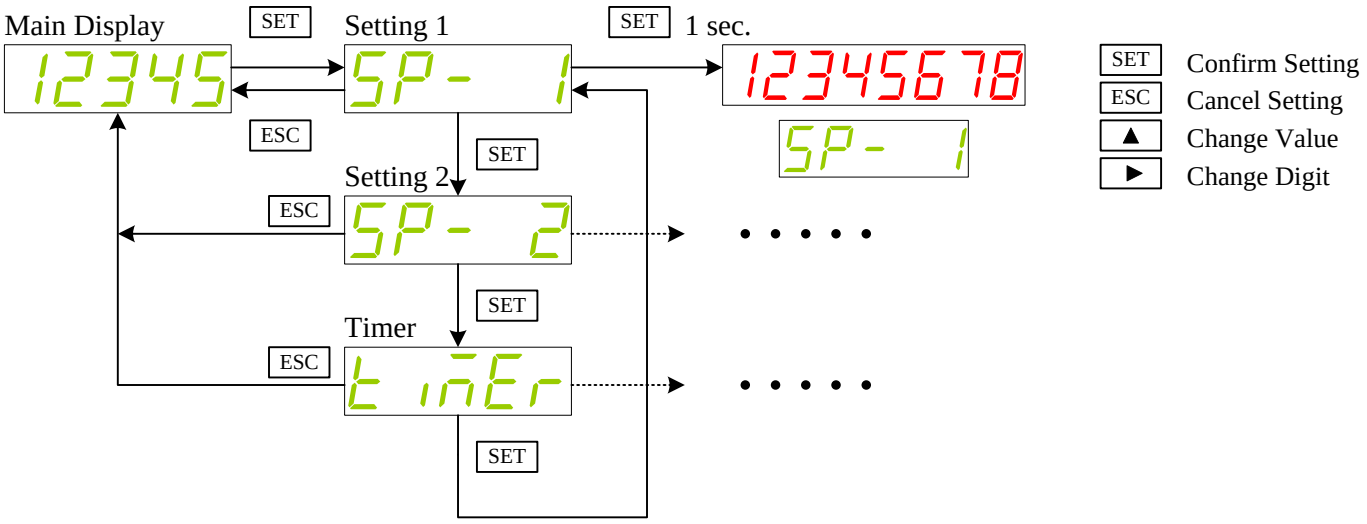
  TEACH : When scaling setting inputs, the index lamp will be turned on. As the software starts teaching function, the lamp starts to blink.

- ❑ **Key Functions:**

ESC	To switch parameter setting pages, cancel settings, or return to man display.
SET	To enter parameter setting or confirm setting.
▲	To change value. Being pressed for 1 second can make the auxiliary display window switch between set value or peak value.
▶	To change currently set digit or change parameter directly.
ZO/TH	Being held for 1 second can force to zero, or to enable teaching function when setting values.
▶ + ZO/TH	Hold for 1 second to cancel forced zeroing.
▲ + ▶	Hold for 1 second to clear record of peak value (works only when the auxiliary window is displaying peak value.

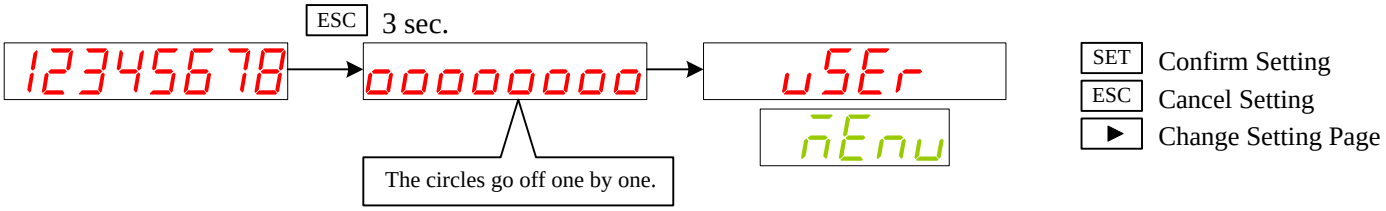
III. Operation Instruction:

❑ Comparative Value Setting:



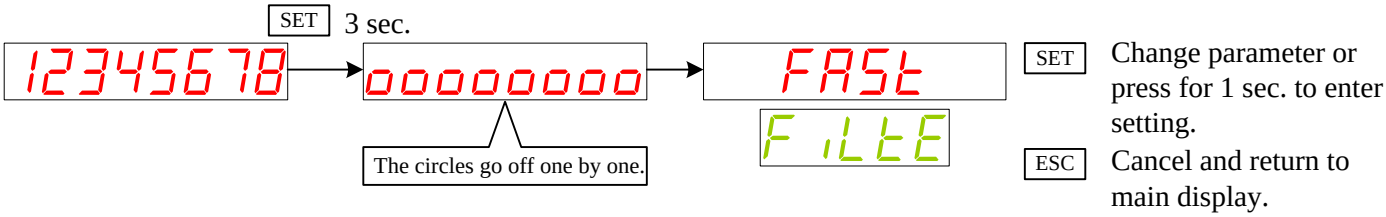
❑ Instruction of Selecting Parameter Setting Page:

❖ The system parameters are divided into 3 categories. To prevent erred settings so as to cause Malfunctions, users can only change general settings after system starts. To change advanced settings, users must switch to the corresponding page.



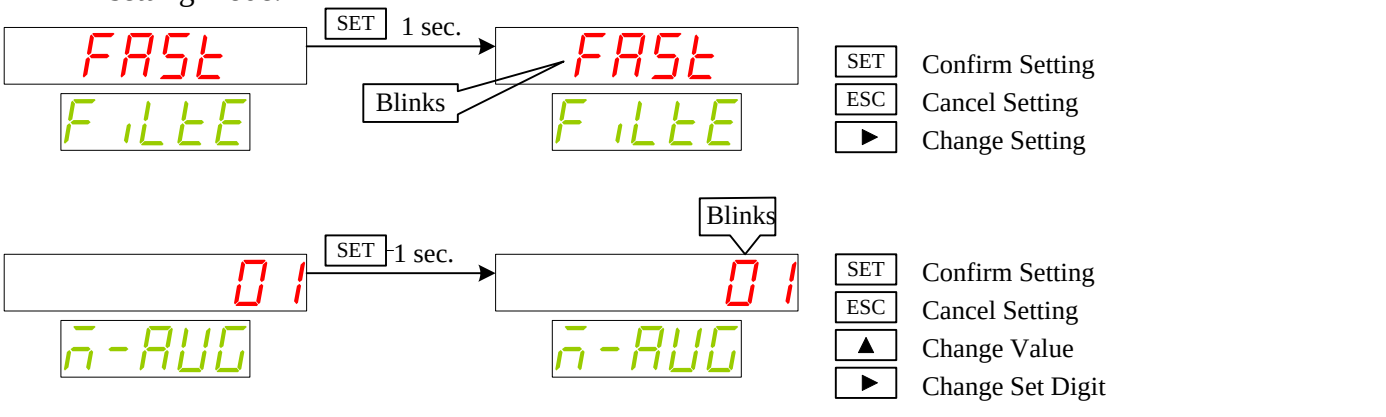
❑ Instruction of Entering Parameter Setting:

❖ After selecting correct setting page, select the parameter your want to adjust.



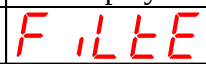
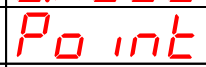
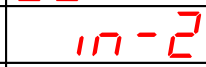
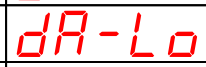
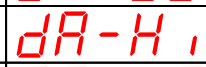
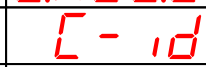
❑ Instruction of Setting Parameters:

❖ When the parameter to set appears in the display window, press SET for 1 second to enter setting mode.

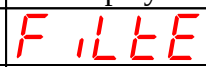
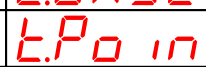
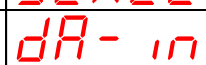
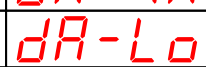
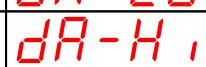
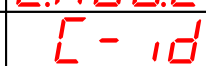
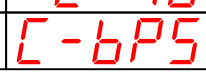


IV. List of Parameters:

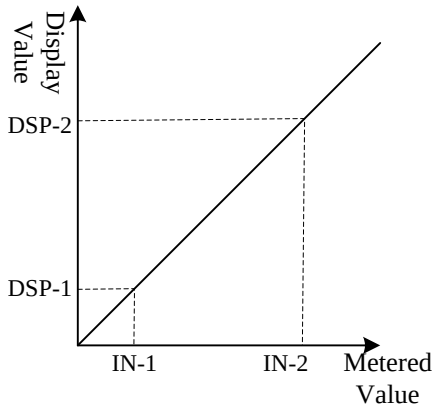
Parameters of Analog Input Type:

Item		Display	Setting Range	Function Description
General	Filter		Null/Fast/Normal/Slow/Slower	To filter out the surge of input signals and regular pulsation.
	Moving Average		1 ~ 16	To filter noise, making display more stable.
	Simple Average		1 ~ 16	To make display slower and more stable.
	Peak Display		Positive / Negative	Display selection of peak value.
	Time Base		Second / Minute / Hour	Time base, please set second, minute, or hour according to actual requirements.
	Decimal of Total		0.0000000/…/0.	To set the decimal place of total value.
	Output Mode		Manual/Return/Continue	Setting of output modes.
Scaling	Decimal Place		0.0000/0.000/0.00/0.0	To set the decimal place of displayed value.
	Input 1		-19999 ~ 99999	The input value corresponds to Display 1 (can be set through Teaching function).
	Display 1		-19999 ~ 99999	The value corresponds to Input Scaling 1.
	Input 2		-19999 ~ 99999	The input value corresponds to Display 2 (can be set through Teaching function).
	Display 2		-19999 ~ 99999	The value corresponds to Input Scaling 2.
	Analog Input		RATE/TOTAL	Selection of analog output source (Rate / Total Value).
	Analog Output 1		-19999 ~ 99999	The displayed value that the lowest point of analog output corresponds to.
	Analog Output 2		-19999 ~ 99999	The displayed value that the highest point of analog output corresponds to.
Communication	Mode		ASCII/RTU	Setting of communication modes. Set according to actual requirements
	Address		1 ~ 255	For data identification during communication. Must not be repeated in the same system.
	Baud Rate		119200/9600/4800/2400	Setting of Baud rate. Higher speed has inferior noise resisting ability.

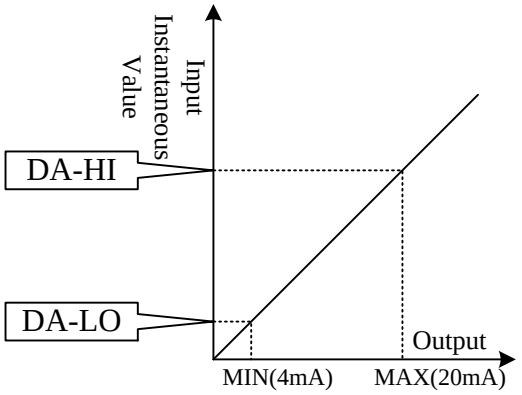
Parameters of Pulse Input Type:

Item		Display	Setting Range	Function Description
General	Filter		Null/Fast/Normal/Slow/Slower	To filter out the surge of input signals and regular pulsation.
	Sampling Time		50~999ms	Setting of sampling time; the smaller the value, the faster the speed.
	Peak Display		Positive / Negative	Display selection of peak value.
	Time Base		Second/Minute/Hour	Time base, please set second, minute, or hour according to actual requirements.
	Decimal of Total		0.0000000/…/0.	To set the decimal place of total value.
	Output Mode		Manual/Return/Continue	Setting of output modes.
Scaling	Decimal Place		0.0000/0.000/0.00/0.0	To set the decimal place of displayed value.
	Scaling		0.00001 ~ 999.99999	The input value corresponds to Display Scaling.
	Analog Input		RATE/TOTAL	Selection of analog output source (Rate / Total Value).
	Analog Output 1		-19999 ~ 99999	The displayed value that the lowest point of analog output corresponds to.
	Analog Output 2		-19999 ~ 99999	The displayed value that the highest point of analog output corresponds to.
Communication	Mode		ASCII/RTU	Setting of communication modes. Set according to actual requirements
	Address		1 ~ 255	For data identification during communication. Must not be repeated in the same system.
	Baud Rate		119200/9600/4800/2400	Setting of Baud rate. Higher speed has inferior noise resisting ability.

❑ **Scaling Setting**



❑ **Analog Output Setting**

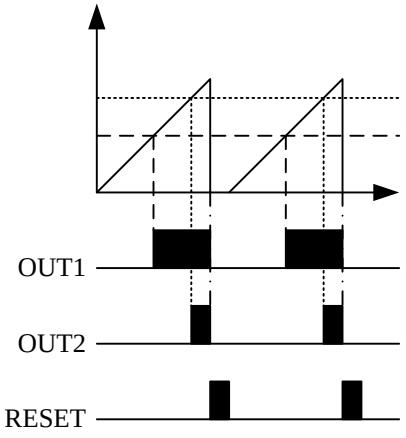


❖ Allows to be set via Teaching function (Analog Input type).

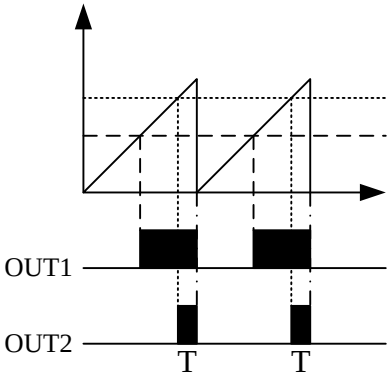
	Load Impedance	Resolution	Output Accuracy
4-20mA	< 400Ω	5uA	0.5% FS
1-5V	> 250Ω	1.25mV	0.2% FS
0-10V	> 500Ω	2.5mV	0.2% FS

V. Three Output Modes

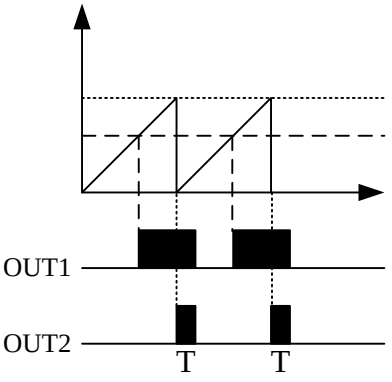
❑ Manual



❑ Return

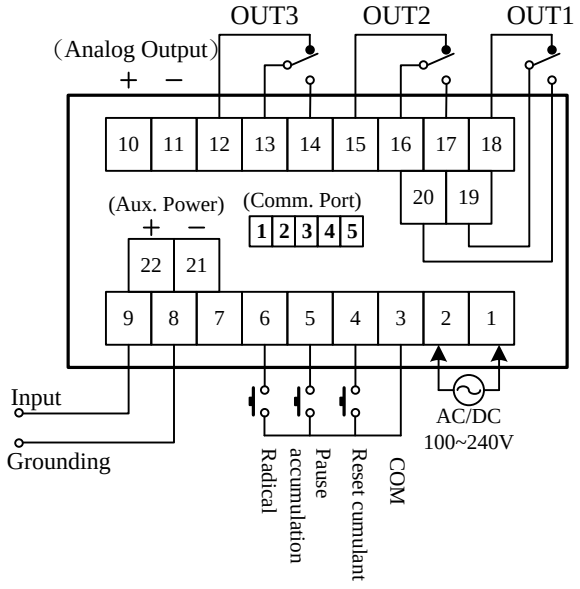


❑ Continue



VI. Wiring Diagram:

❑ Analog Input Type



❑ Pulse Input Type